

REMARKS

The Office Action of January 31, 2001, has been carefully considered.

It is noted that claims 5-8 are rejected under 35 USC 112, second paragraph.

Claims 5 and 6 are rejected under 35 USC 103(a) over the patent to Daly, et al.

Claims 7 and 8 are rejected under 35 USC 103(a) over Daly, et al. in view of the patent to Lex.

In view of the Examiner's rejections of the claims applicants have amended claims 5 and 7.

It is respectfully submitted that the claims now on file particularly point out and distinctly claim the subject matter which applicants regard as the invention. The applicants have amended the claims to address the instances of indefiniteness cited by the Examiner.

In view of these considerations it is respectfully submitted that the rejection of claims 5-8 under 35 USC 112, second paragraph, is overcome and should be withdrawn.

Turning now to the references, and particularly to the patent to Daly, et al., it can be seen that this patent discloses a method for producing aluminum can sheet. Daly, et al. produce the aluminum sheet from a heated ingot which is rolled hot in a reversing roll stand. This intermediate product is then additionally cold rolled. In other words Daly, et al. undertake hot rolling and then an additional cold rolling. In Daly, et al. the strip from the hot roll stand leaves with a temperature of 249-405°C. At this temperature recrystallization has taken place, at least at temperatures over 280°C. Based upon these facts the desired minimization or reduction in recrystallization is virtually unattainable. In the presently claimed invention, on the other hand, specifically the uncritical temperature range of 260-280°C is used in the hot roll passes in order to

avoid recrystallization. Subsequently recrystallization takes place by heating coils of strip to 315-320°C. It is respectfully submitted that Daly, et al. do not teach or suggest a process in which the last hot rolling passes are carried out without recrystallization in a non-critical temperature range of 260°C to 280°C, as in the presently claimed invention. Furthermore, there is absolutely no teaching by Daly, et al. of coiling the strip after the hot rolling and then feeding the coils into a furnace for heat treating the finished coils to a recrystallization temperature of 315°C to 320°C, as in the presently claimed invention. There is no suggestion by Daly, et al. of a process having this unique arrangement of steps. Instead, Daly, et al. only teach hot rolling and then a subsequent cold rolling.

In view of these considerations it is respectfully submitted that the rejection of claims 5 and 6 under 35 USC 103(a) over the above-discussed reference is overcome and should be withdrawn.

The patent to Lex discloses a dynamo or electric band. The Examiner combined the teachings of Lex with Daly, et al. in determining that claims 7 and 8 would be unpatentable over such a combination. Applicants respectfully submit that the combination of references provides no teaching concerning a plant having means for finish rolling the rough strip so that the last hot rolling passes are carried out without recrystallization in a non-critical temperature range of 260-280°C, and means for heat treating the finished coiled strip to a recrystallization temperature of 315-320°C. For the reasons given above in connection with the discussion of claims 5 and 6 it is respectfully submitted that a combination of Daly, et al. and Lex do not teach the plant as presently recited in claims 7 and 8.


In view of these considerations it is respectfully submitted that the rejection of claims 7 and 8 under 35 USC 103(a) over a combination of the above-discussed references is overcome and should be withdrawn.

Reconsideration and allowance of the present application are respectfully requested.

It is believed that no fees or charges are required at this time in connection with the present application; however, if any fees or charges are required at this time, they may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,

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IN THE CLAIMS:

5. (Amended) A process for producing hot-rolled aluminum strip for can making, comprising the steps of:

feeding a feed material into a reversing roughing stage to form a strip;

finish rolling the strip from a coil to a coil on a reversing roll stand immediately after the roughing stage in a number of hot rolling passes;

suppressing recrystallization of the rolled strip by controlled temperature management of the strip so that last of the hot rolling passes are carried out without recrystallization on [a] the reversing roll stand from coil to coil in a non-critical temperature range of 260°C to 280°C;

coiling the strip into finished coils; and

feeding each finished coil to a continuous pusher type furnace for heat treating the finished coils to a recrystallization temperature of 315°C-320°C.

7. (Amended) A plant for carrying out a process for producing hot-rolled aluminum strip for can making, comprising:

a reversing roughing stage for aluminum feed material which is used hot, the roughing stage being capable of producing a rough strip;

means for finish rolling the rough strip in a number of hot rolling passes so that last of the hot rolling passes occur without recrystallization in a non-critical temperature range of 260°C to 280°C, the finish rolling means including a four-high reversing roll stand and a respective winding device arranged on each side of the roll stand for coiling the strip;

means for heat treating the finish coiled strip to a recrystallization temperature of 315°C-320°C, the heat treating means including a pusher-type coil furnace and a pallet transport system via which a number of contacting pallets, each holding a coil, is transported through the pusher-type coil furnace by displacement of the pallets; and

means for transporting the coiled strip to the heat treating means, one of winding devices corresponding with the transporting means.